HOW TO PROMOTE
A GREENFIELDS EXPLORATION BOOM IN SA
Roger Baxter, CEO, Minerals Council South Africa
16 October 2019
SAIMM Young Professionals Conference
Minerals Council South Africa represents more than 70 large, medium-sized, small and emerging miners, and three associations that collectively represent +200 entities.

Members make up around 90% of South Africa’s mineral production by value.

OUR PURPOSE
#MakingMiningMatter
Mining matters to South Africa

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct contribution of mining to GDP:</td>
<td><strong>R350.8bn</strong> (7%)</td>
<td>6.2% of private, non-agricultural employment in the country</td>
</tr>
<tr>
<td>Direct contribution fixed investment:</td>
<td><strong>R91.1bn</strong></td>
<td>15% of total private sector investment</td>
</tr>
<tr>
<td>Total primary mineral sales:</td>
<td><strong>R498.7bn</strong></td>
<td>66% exported sales, 27% of SA’s total exports</td>
</tr>
<tr>
<td>Royalties paid:</td>
<td><strong>R7.6bn</strong></td>
<td></td>
</tr>
<tr>
<td>Taxes paid:</td>
<td><strong>R22.0bn</strong></td>
<td></td>
</tr>
<tr>
<td>Direct employment created by mining:</td>
<td><strong>456,000</strong></td>
<td>people employed</td>
</tr>
<tr>
<td>Indirect employment created by mining:</td>
<td>For every job in mining at least 2 more jobs are created up and downstream</td>
<td></td>
</tr>
<tr>
<td>Economic dependency:</td>
<td>Each mining employee supports 5 to 10 dependants</td>
<td></td>
</tr>
<tr>
<td>Remuneration to mining employees:</td>
<td><strong>R134bn</strong></td>
<td></td>
</tr>
<tr>
<td>PAYE paid by employees:</td>
<td><strong>R21bn</strong></td>
<td></td>
</tr>
</tbody>
</table>
# And South Africa matters to mining

## South Africa’s contribution to world mineral reserves: 2017-2018

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Unit</th>
<th>South Africa reserves</th>
<th>World reserves</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony (metal)</td>
<td>kt</td>
<td>27</td>
<td>1,500,000</td>
<td>1.8</td>
</tr>
<tr>
<td>Chromium</td>
<td>Mt</td>
<td>200,000</td>
<td>500,000</td>
<td>40.0</td>
</tr>
<tr>
<td>Gold (metal)</td>
<td>t</td>
<td>6,000</td>
<td>57,000</td>
<td>10.5</td>
</tr>
<tr>
<td>Iron Ore</td>
<td>Mt</td>
<td>770</td>
<td>82,000</td>
<td>0.9</td>
</tr>
<tr>
<td>Manganese (metal)</td>
<td>kt</td>
<td>200,000</td>
<td>690,000</td>
<td>28.9</td>
</tr>
<tr>
<td>Nickel</td>
<td>Mt</td>
<td>3,700</td>
<td>78,000</td>
<td>4.7</td>
</tr>
<tr>
<td>Platinum Group Metals</td>
<td>t</td>
<td>63,000</td>
<td>67,000</td>
<td>94.0</td>
</tr>
<tr>
<td>Uranium (metal, up to $US80/kg U)</td>
<td>t</td>
<td>279,100</td>
<td>–</td>
<td>5.2</td>
</tr>
<tr>
<td>Zirconium minerals (metals)</td>
<td>kt</td>
<td>14,000</td>
<td>75,000</td>
<td>18.6</td>
</tr>
</tbody>
</table>

Source: Department of Minerals Resources and Energy, US Geological Survey
Mining investment has only just stabilised

The long-term trend in mining production is at the 2000 level
A sector emerging from serious headwinds

1. Policy and regulatory uncertainty
   - Disastrous 2016 Zwane Charter
   - Problematic 2012 MPRDA amendment bill
   - Continued challenges on environmental and mining licensing
   - New carbon tax with no regulations on offsets (budgets, offsets)

2. Infrastructure challenges
   - Challenges on electricity supply and rising prices (523% increase in 10 years)
   - Challenges on availability of rail, and rapidly escalating rail costs

3. Community and employment relations instability
   - Community protests and disruption to mining
   - Strike activity

4. Crime and illegal mining’s impact on the sector
   - Huge economic cost to mines and country

Economic and transformational cost of ‘getting it wrong’ is huge
Despite challenges, economic and transformational potential of mining is huge

If we get back into the top 25% of investment destinations we could grow investment 85%

GROWTH = Jobs
= Export earnings
= Transformation
Top 10 business risks facing mining and metals – EY 2020

Exploration key
SA Mining’s competitiveness improved as did national competitiveness

<table>
<thead>
<tr>
<th>Global competitiveness in 2019</th>
<th>Ease of doing business in SA in 2018</th>
<th>Mining’s investment attractiveness in 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>60th out of 140 jurisdictions (67th out 140 in 2018)</td>
<td>82nd out of 190 jurisdictions (82nd out of 190 in 2017)</td>
<td>43rd out of 83 jurisdictions (48th out of 91 in 2017)</td>
</tr>
</tbody>
</table>

*World Economic Forum Global Competitiveness Index*

*World Bank Ease of Doing Business Index*

*Fraser Institute Annual Survey of Mining Companies Investment Attractiveness Index*
So, how do we promote a greenfields exploration boom in SA?
Understanding the mining value chain

Focus area of Australian and Canadian Juniors

Discovery

Exploration and feasibility studies

Construction

Mining and extraction

Beneficiation and processing

Marketing and sales

Rehabilitation and closure

Focus area of South African Junior Miners
Minerals Council research shows a multiplier effect of between 7 and 10 jobs in surrounding industries for each mining job.

Junior sector could contribute 230,000 jobs as a conservative estimate.

Government and junior miners need to partner to develop the sector further.

Minerals Council Junior Mining Desk has engaged the DMRE on signing an MoU on collaboration.

Imperative that regulatory environment does not impede the development of junior mining in South Africa.

Junior & Emerging miner - mining licences* in South Africa (2017)

![Bar chart showing mining licences by type and metallic group.

Source: DMR Statistics Tables 2017

* Mining rights
Listed emerging/exploration mining companies

Number of emerging/exploration mining companies listed

- Toronto Stock Exchange: 1193
- Australian Stock Exchange: 705
- London Stock Exchange: 307
- Hong Kong Stock Exchange: 103
- Chile Stock Exchange: 70
- Johannesburg Stock Exchange: 10

Source: Minerals Council
Exploration expenditure decreased since 2005

Lag between exploration and construction

Source: SARB, Standard & Poor's

Source: SARB, Statistics SA, Minerals Council South Africa South Africa
SA’s share of global exploration budgets decreased to ~1%

Source: Boston Consulting Group, 2018
SA’s share of global exploration budget and spend

SA accounted for 0.2% of global gold exploration expenditure, while accounting for 3.6% of global gold production. Similar picture apparent when compared for other commodities.

Source: Statistics South Africa, Fraser Institute Mining Survey 2018
Comparing ‘best-practice’ jurisdictions

European, Australian and Canadian jurisdictions considered best-in-class in quality of geological databases SA lagging in 52nd position

Source: Fraser Institute Mining Survey 2018
Comparative analysis – investment attractiveness and policy perception

Exploration is a ‘high-stakes’ investment – risks inherent in investment need to be offset by investor friendly environment.

In the absence of an investor friendly environment, the potential for exploration investment is eroded.

### Investment attractiveness

<table>
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<th>Country</th>
<th>Score</th>
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<tr>
<td>Canada</td>
<td>78.3</td>
</tr>
<tr>
<td>Botswana</td>
<td>71.6</td>
</tr>
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<td>South Africa</td>
<td>65.3</td>
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### Policy perception

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<th>Country</th>
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<tbody>
<tr>
<td>Canada</td>
<td>88.0</td>
</tr>
<tr>
<td>Botswana</td>
<td>94.7</td>
</tr>
<tr>
<td>South Africa</td>
<td>64.5</td>
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Source: Fraser Institute Mining Survey 2018
Country comparison of specific areas of legislation

Uncertainty around existing regulation a significant deterrent to investment

Botswana a good example – regulations are law and cannot change easily

Uncertainty concerning the administration, interpretation and enforcing of existing regulations

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<th>Encourages investment</th>
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Uncertainty concerning environmental regulations

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</tr>
<tr>
<td>South Africa</td>
<td>57%</td>
<td>43%</td>
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Source: Fraser Institute Mining Survey 2018
Country comparison of specific areas of legislation

Regulatory duplication and inconsistency

- Tax regime in SA assessment – even split between discouraging and encouraging investment

Source: xxx
Average period for approval of mining rights

Botswana vs. SA
(almost 7 times longer)

Source: Boston Consulting Group
Approval process for mining rights in SA

1. DMRE capacity
2. Inconsistent timelines
3. Inconsistent procedures
4. No progress / process updates

1. Online (SAMRAND) environmental authorisation application
   - System not fully functional

2. Approved

   - Rejected
     - Clarity of criteria could be improved

   + Appeals process
     - Approved
     - Rejected

3. Consult with land owner/affected parties
4. Submit consultation documents and environmental authorisation
   - SLPs not monitored
   - SLPs required for prospecting

5. Section 10 notice and consultations
   - RMDEC if objected to
     - Minister approves
     - Minister rejects
   - RMDECs occasionally missing

6. If no objections, RM approval required
   - Criteria not always consistently applied
   - Delegation
   - Minister approves
   - Minister rejects
How do we make this happen?

Global exploration budgets are also increasing. S&P Global estimates that 2019 spend will continue to grow beyond $US 10.5 billion. This will bring three consecutive years of growth after dipping to $US7.5 billion in 2016 with all miners recognising the criticality of replacing reserves.
Stable, predictable regulatory environment

Sound geological information

Access to funding and incentives

Expeditious and transparent licensing

Social license to operate

Available, efficient, cost competitive and reliable infrastructure

Improving productivity and competitiveness, incl through R&D, technology and grants

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CREATING AN EXPLORATION BOOM
STABLE, PREDICTABLE, COMPETITIVE REGULATORY ENVIRONMENT

- Stable, predictable and competitive policy and regulatory regime.
- Limited encumbrance on venture capital funded exploration businesses (let them find the deposits first).
- Positive incentives for developing venture capital funding in RSA (build on s12J).
- Security of tenure from reconnaissance to exploration to mining.
SOUND, ACCESSIBLE GEOLOGICAL INFORMATION

- Extensive pre-competitive geophysical information at high resolution compiled by government.
- Ease of access to this information at no cost.
- Ongoing process of improving information using latest technology.
EXPEDITIOUS AND TRANSPARENT LICENSING PROCESS

• Efficient online license application system for reconnaissance and exploration permits.
• Speedy granting of permissions and rights.
SOCIAL COLLABORATION TO SUPPORT MINING

• Collaboration to ensure success from exploration to mining.
• Team South Africa approach.
AVAILABLE, EFFICIENT, COST COMPETITIVE AND RELIABLE INFRASTRUCTURE

• Open access to rail, ports, electricity to private service providers to stimulate competition.

• Improve access to new connections/services.
IMPROVING PRODUCTIVITY INCL THROUGH R&D, TECHNOLOGY

- Invest in RD&I in exploration, mining and processing.
- Expand our access to latest geological techniques and innovations.
ACCESS TO FUNDING AND INCENTIVES

• Develop comprehensive tax measures to support the raising of venture capital in the RSA market (build on s12 J), but also investigate why the Canadian Flow Through Share system has been so successful.

• Look at alternative funding mechanisms to support venture capital funding.
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October 2019